

## Wilderness experience programs for juvenile offenders

Benefit-cost estimates updated December 2015. Literature review updated September 2015.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our [technical documentation](#).

Program Description: Wilderness programs are typically non-profit education organizations that expose troubled youth to the outdoors. These programs, for example, Outward Bound, use challenge and adventure as a means to help delinquent youth through self-discovery.

### Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$5,392	Benefit to cost ratio	\$92.27
Taxpayers	\$7,292	Benefits minus costs	\$27,445
Other (1)	\$11,494	Probability of a positive net present value	100 %
Other (2)	\$3,568		
Total	\$27,746		
Costs	(\$301)		
Benefits minus cost	\$27,445		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2014). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

### Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$4,258	\$9,459	\$2,128	\$15,845
Labor market earnings (hs grad)	\$5,572	\$2,377	\$2,753	\$1,261	\$11,963
Health care (educational attainment)	(\$180)	\$658	(\$719)	\$328	\$86
Adjustment for deadweight cost of program	\$0	\$1	\$0	(\$150)	(\$149)
Totals	\$5,392	\$7,292	\$11,494	\$3,568	\$27,746

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization, the economic spillover benefits of improvement in human capital outcomes, and the benefits from private or employer-paid health insurance. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

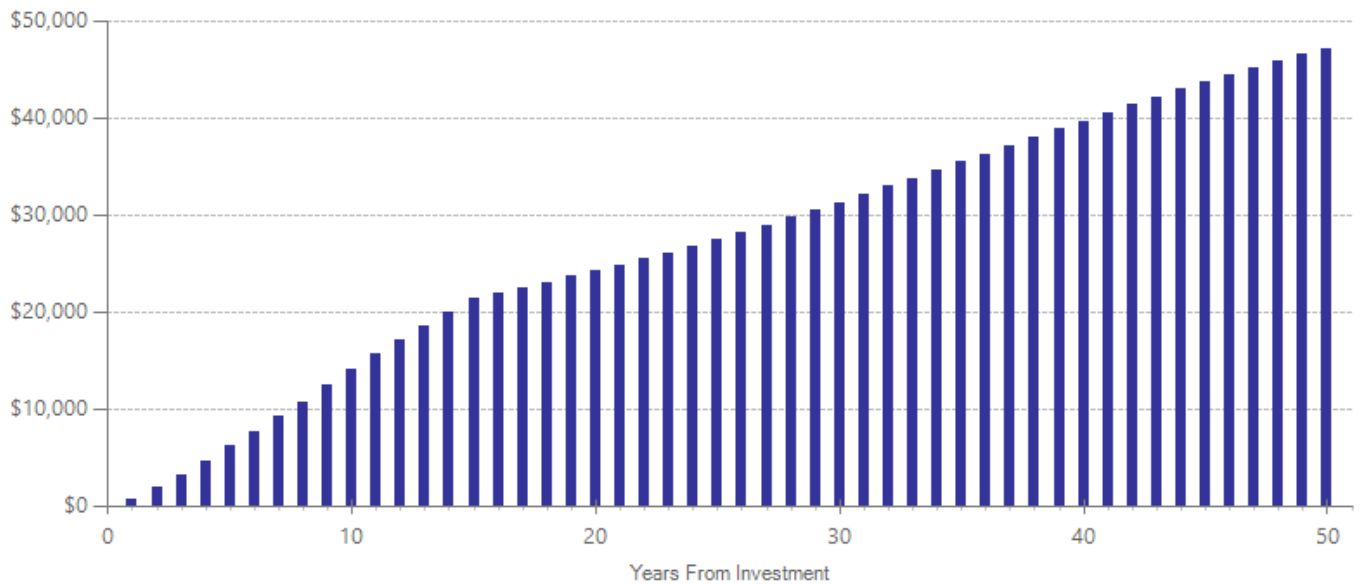
## Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$300	1	2014	Present value of net program costs (in 2014 dollars)	(\$301)
Comparison costs	\$0	1	2014	Uncertainty (+ or - %)	10 %

Estimated from: <http://www.outwardbound.org/>.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

### Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



## Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Treatment N	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
						First time ES is estimated			Second time ES is estimated		
				ES	p-value	ES	SE	Age	ES	SE	Age
Crime	Primary	9	536	-0.509	0.001	-0.457	0.090	17	-0.457	0.090	27

## Citations Used in the Meta-Analysis

- Castellano, T.C., & Soderstrom, I.R. (1992). Therapeutic wilderness programs and juvenile recidivism: a program evaluation. *Journal of Offender Rehabilitation*, 17(3/4), 19-46.
- Cytrynbaum, S., & Ken, K. (1975). *The Connecticut Wilderness program: A Preliminary Evaluation Report*. Hartford, CT: The Council on Human Services.
- Elrod, P.H., & Minor, K. (1992). Second wave evaluation of a multi-faceted intervention for juvenile court probationers. *International Journal of Offender Therapy and Comparative Criminology*, 36(3), 247-262.
- Gillis, H.L., & Gass, M.A. (2010). Treating juveniles in a sex offender program using adventure-based programming: a matched group design. *Journal of Child Sexual Abuse*, 19(1), 20-34.
- Hileman, M.A. (1979). *An evaluation of an environmental stress-challenge program on the social attitudes and recidivism behavior of male delinquent youth*. Unpublished master's thesis, Southern Illinois University, Carbondale.
- Kelly, F.J. & Baer, D.J. (1971). Physical challenge as a treatment for delinquency. *Crime and Delinquency*, 17(4), 437-445.
- Metametrics, Inc. (1984). *Evaluation of the Breakthrough Foundation Youth at Risk Program: The 10-day Course and Follow-up Program*.
- Willman, H.C., & Chun, R.Y.F. (1973). Homeward bound: an alternative to the institutionalization of adjudicated juvenile offenders. *Federal Probation*, 37, 52-58.

Winterdyk, J., & Roesch, R. (1982). A wilderness experiential program as an alternative for probationers: An evaluation. *Canadian Journal of Criminology*, 24, 39-49.

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